

WHAT IS CLAIMED IS:

1. For use with an electric meter chassis having a
2 dielectric housing protruding therefrom, an antenna for allowing
3 electric meter circuitry within said chassis to communicate
4 wirelessly through said dielectric housing, comprising:

5 a wireless communication circuit couplable to said electric
6 meter circuitry; and

70 an antenna element located within said dielectric housing
82 coupled to said wireless communication circuit.

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4. The antenna as recited in Claim 1 wherein said chassis

2 comprises:

3 electric meter circuitry located in said dielectric housing;

4 and

5 an electromagnetic shield located about at least a portion of

6 said electric meter circuitry.

5. The antenna as recited in Claim 1 wherein said antenna

2 element is arcuate and has a flattened lateral cross section.

6. The antenna as recited in Claim 1 wherein said antenna is

2 a dipole antenna.

7. The antenna as recited in Claim 1 wherein said wireless

2 communication circuit has a carrier frequency of between 700 and

3 950 megahertz.

8. For use with an electric meter chassis having a
2 dielectric housing protruding therefrom, a method of manufacturing
3 an antenna for allowing electric meter circuitry within said
4 chassis to communicate wirelessly through said dielectric housing,
5 comprising the steps of:

6 providing a wireless communication circuit couplable to said
7 electric meter circuitry; and

8 locating an antenna element within said dielectric housing,
9 said antenna coupled to said wireless communication circuit.

10 9. The method as recited in Claim 8 further comprising
causing said antenna to generally conform to a portion of an
3 internal surface of said dielectric housing.

11 10. The method as recited in Claim 8 further comprising
2 placing electric meter circuitry in a circuit board rack within
3 said dielectric housing, said antenna located between circuit
4 boards in said circuit board rack.

12 11. The method as recited in Claim 8 further comprising:
2 placing electric meter circuitry in said dielectric housing;
3 and
4 placing an electromagnetic shield about at least a portion of
5 said electric meter circuitry.

12. The method as recited in Claim 8 further comprising
2 forming said antenna into a metal arc having a flattened lateral
3 cross section.

13. The method as recited in Claim 8 wherein said antenna is
2 a dipole antenna.

14. The method as recited in Claim 8 further comprising
2 generating a carrier frequency of between 700 and 950 megahertz in
3 a wireless communication circuit.

15. An electric meter, comprising:

2 an electric meter chassis having a dielectric housing
3 protruding therefrom;

4 electric meter circuitry;

5 a wireless communication circuit couplable to said electric
6 meter circuitry; and

7 an antenna element located within said dielectric housing
8 coupled to said wireless communication circuit.

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16. The meter as recited in Claim 15 wherein said antenna
2 generally conforms to a portion of an internal surface of said
3 dielectric housing.

17. The meter as recited in Claim 15 further comprising an
2 electromagnetic shield located about at least a portion of said
3 electric meter circuitry.

18. The meter as recited in Claim 15 wherein said antenna is
2 arcuate and has a flattened lateral cross section.

19. The meter as recited in Claim 15 wherein said antenna is
2 a dipole antenna.

20. The meter as recited in Claim 15 wherein said wireless
2 communication circuit has a carrier frequency of between 700 and
3 950 megahertz.

21. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates meter billing information.

22. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:

4 energy usage,
5 power demand, and
6 power factor.

23. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:

4 time of use, and
5 interval recordings of energy usage.

24. The meter as recited in Claim 15 wherein said wireless
2 communication circuit communicates information selected from the
3 group consisting of:

4 power quality information,
5 power outage information,
6 site analysis information, and
7 diagnostic information.

25. The meter as recited in Claim 15 wherein said chassis
comprises a capacitively backed up power supply that powers said
3 electric meter circuitry and said wireless communication circuit,
4 thereby allowing said wireless communication circuit to communicate
5 power outage information during a loss of power.

26. The meter as recited in Claim 15 wherein said balance
circuit is a microstrip.

27. The meter as recited in Claim 15 wherein said chassis
comprises a flex strip connector that couples said wireless
3 communication circuit to said electric meter circuitry.